

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference 114759 WIRE3/sko	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA416)	
International application No. PCT/NO 03/00021	International filing date (day/month/year) 22.01.2003	Priority date (day/month/year) 23.01.2002
International Patent Classification (IPC) or both national classification and IPC H04B3/56		
Applicant NORDMORE ENEGIVERK AG et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

 These annexes consist of a total of 2 sheets.

- This report contains indications relating to the following items:
 - I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 15.08.2003	Date of completion of this report 30.04.2004
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**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO 03/00021

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-6 as originally filed

Claims, Numbers

1-8 filed with telefax on 01.04.2004

Drawings, Sheets

1/5-5/5 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: WO-A2-0141325

D2: US-A-4350980

D3: "Travelling wave antennas", Knut N. Stokke; Teletronikk (Norway), Teletronikk, 1994, Norway;

D4: "Telecom overhead cables as antennas for long wave radio signals", A. Thomassen; Teletronikk (Norway), Teletronikk, 1994, Norway;

- 2.**
- Claim 1 is based on original claim 1, figure 1 or 2 and partly on original claim 2;
 - claim 2 is based on original claim 2;
 - claim 3 corresponds to original claim 3;
 - claim 4 is based on original claim 7;
 - claim 5 is based on original claim 8;
 - claim 6 is based on original claim 10, partly on original claim 2 and the description on page 4, lines 25-29 and figures 1 or 2;
 - claim 7 corresponds to original claim 11;
 - claim 8 is based on original claim 12 and description on page 6, lines 31-32 or figure 1 or 2.

3. Claims

3.1 Claim 1:

Document D1 describes a telecommunication system for transferring a signal from a transmitter having an output which comprises a first and a second conductor through electrical supply lines. The signal is coupled to a supply cable through an interface such as a DECT interface, a frequency converter and a transformer (cf. figure 1 of D1). The coupling of the signal to the supply line may be capacitive (cf. figures 2 or 3) or it may take place by means of a dipole antenna (cf. figures 4 and 5). In either case, the transmitter's first conductor is connected to the supply cable, while the second conductor is connected to a jacket (cf. item "31" in figures 1-5), surrounding the supply cable's conductors. The telecommunication system of D1

is based on a power cable comprising an external jacket which at least encompasses one power conducting lead (R, S, T, N).

Document D2 describes an electric power consumption communicator system which includes a non-contact electric utility meter monitoring device which converts meter wheel revolutions into electronic digital pulses. The power line coupler of the communicator system is based on a standard transformer with a single primary and dual independent secondaries (cf. figures 3A and 3B). The oscillating signal is transformer coupled onto the AC power line through the primary of the transformer.

D3 and D4 describe the use of power lines as travelling wave antennas without specifying the connection between communication signal and power cable.

The subject-matter of claim 1 differs therefrom in that in claim 1 the antenna device comprises connector devices for connecting

- the first conductor to a first point on the supply line and
- the second conductor to a second point on the supply line (cf. figures 1 and 2).

None of the documents cited in the search report or introduced by the examining division (D3 and D4) hint at the connection of the conductors to two different points on the supply line.

Therefore, claim 1 fulfills the requirements of Articles 33(2) and 33(3) PCT.

3.2 Claims 2-5

The dependent claims 2-5 add further features to the independent claim 1 and thus also relate to novel and inventive subject-matter and hence meet the requirements of Articles 33(2) and 33(3).

3.3 Claim 6

The statement according to the device claim 1 applies also to the method claim 6. Therefore method claim 6 satisfies the requirements of Articles 33(2) and 33(3) PCT.

3.4 Claim 7

The dependent claim 7 adds further features to the independent claim 6 and thus also relate to novel and inventive subject-matter and hence meet the requirements of Articles 33(2) and 33(3).

3.5 Claim 8

The independent claim 8 defines the use of a single electrical supply line (power line) as a travelling wave antenna. The subject-matter of claim 8 differs from the closest prior art as represented by D3 or D4 in that in claim 8 the supply line is passed into or out of an electrical installation cabinet and that a single supply line is used for a radio transmitter mounted inside the installation cabinet.

However, the provision of these features is merely one of several generally known possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill (cf. e.g. D1 fig. 1).

This is exemplified by D1, wherein the automatic reading device is in a form which renders it suitable for the use as a radio transmitter mounted inside an installation cabinet (fuse box). Furthermore only one single supply line (phase "S") is used to transfer a telecommunication signal (cf. also D1 on page 6, lines 25-30 and page 8, lines 25-28).

Therefore claim 8 does not meet the requirements of Art. 33(3) PCT.

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4. Remarks:

4.1 In claim 1 on page 7, lines 9, 12 and 13, the wording "on the supply line" should have been replaced by "on the at least one electrical supply line" (Article 6 PCT).

4.2 Claim 5 comprises all the features of claim 1 and is therefore not appropriately formulated as a claim dependent on the latter (Rule 6.4 PCT).

The reference "as indicated in claim 1" used in dependent claim 5 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claim unclear (Article 6 PCT). This reference should have been replaced by "as claimed in claim 1".

4.3 The term "whereby the supply line is employed as a travelling wave antenna for the radio transmitter" in claim 1 (page 7, lines 13-14) should have been moved to line 5 and inserted after "installation cabinet" because the use of the supply line as a travelling wave antenna is not part of the antenna device per se (Article 6 PCT).